



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

2015 Washington State Energy Code Development

Energy Code Proposal Short Form

For editorial **Coordination, Clarifications & Corrections** only,
without substantive energy or cost impacts

Log No. 212

TAG Revision 8/27/21

Code being amended: ☒ **Commercial** Provisions ☐ **Residential** Provisions
(A MS Word version of the code is linked to the name)

Code Section # C406.8 & C406.9

Brief Description:

Provides clarification of minimum rating conditions to achieve the requirement of a COP of 3.0 or greater.

Proposed code change text:

C406.8 Reduced energy use in service water heating. Buildings with service hot water heating equipment that serves the whole building, building addition or tenant space shall comply with Sections C406.8.1 and C406.8.2.

C406.8.1 Building type. Not less than 90 percent of the *conditioned floor area* of the whole building, building addition or tenant space shall be of the following types:

1. Group R-1: Boarding houses, hotels or motels.
2. Group I-2: Hospitals, psychiatric hospitals and nursing homes.
3. Group A-2: Restaurants and banquet halls or buildings containing food preparation areas.
4. Group F: Laundries.
5. Group R-2.
6. Group A-3: Health clubs and spas.
7. Buildings with a service hot water load of 10 percent or more of total building energy loads, as shown with an energy analysis as described in Section C407 or as shown through alternate service hot water load calculations showing a minimum service water energy use of 15 k/Btu per square foot per year, as approved by the building official.

C406.8.2 Load fraction. Not less than 60 percent of the annual service hot water heating energy use, or not less than 100 percent of the annual service hot water heating energy use in buildings with water-cooled systems subject to the requirements of Section C403.9.5 or qualifying for one of its exceptions, shall be provided by one or more of the following:

1. Service hot water system delivering heating requirements using heat pump technology with a minimum COP of 3.0. For air-source equipment, the COP rating will be reported at the design leaving heat pump water temperature with an entering **dry bulb** air temperature of 60°F (15.6°C) or lower **and a relative humidity of 50% or lower**. For water-source equipment, the COP rating will be reported at the design leaving load water temperature with an entering water temperature of 74°F (23.3°C) or lower.
2. Waste heat recovery from service hot water, heat recovery chillers, building equipment, process equipment, or other *approved* system. Qualifying heat recovery must be above and beyond heat recovery required by other sections of this code.
3. On site renewable energy water-heating systems.

C406.9 High performance service water heating in multifamily buildings. For a whole building, building addition, or tenant space with not less than 90 percent of the *conditioned floor area* being Group R-2 occupancy, not less than 90 percent of the annual building service hot water energy use shall be provided by a heat pump system with

Commented [BK(1): Need to correlate with Prop 206 C406.2.6.3

a minimum COP of 3.0. ~~For air-source equipment, the COP rating will be reported at the design leaving heat pump water temperature with an entering dry bulb air temperature of 60°F (15.6°C) or lower and a relative humidity of 50% or lower. For water-source equipment, the COP rating will be reported at the design leaving load water temperature with an entering water temperature of 74°F (23.3°C) or lower.~~ This efficiency package is allowed be taken in addition to Section C406.8.2.

Purpose of code change:

Current code language does not make it clear what rating conditions are required to satisfy intent of code. Proposed language is meant to correct this.

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Instructions: For use with Coordination, Clarifications & Corrections ONLY. Send this form as an email attachment, along with any other documentation available, to: sbcc@ga.wa.gov. For further information, call the State Building Code Council at 360-407-9277.